AMENDMENTS TO THE CLAIMS:

The listing of claims provided below will replace all prior versions, and listings, of claims in the application.

1. (previously presented) A method of obtaining protective coatings on a surface of chemically active materials comprising a mixture of a chemically active metal and a fusible stable element comprising the steps of:

providing at least one chemically active metal A;

providing at least one fusible stable element B;

mixing metal A and element B to form a mixture;

treating said mixture at its surface with a liquid agent L, wherein liquid agent L is capable of dissolving metal A but not capable of dissolving element B at a temperature which is higher than the melting point of element B thereby creating a coating consisting essentially of element B at the surface of said mixture;

ceasing treatment when a desired thickness of the coating is achieved;

removing the liquid agent;

cleaning the mixture; and

drying the mixture.

2. (previously presented) The method according to claim 1, wherein metal A is selected from the group consisting of alkali, alkali-earth, rare-earth metals and actinoids.

3. (previously presented) The method according to claim 2, wherein metal A is selected from the group consisting of lithium, sodium, potassium, rubidium, cesium, magnesium, calcium, strontium, barium, radium, lanthanum, praseodymium, erbium, europium, ytterbium, uranium, plutonium and thallium.

4. (previously presented) The method according to claim 1, wherein element B is selected from the group consisting of the elements in group III, IV, V and VI of the Periodic System and their binary and ternary combinations with each other.

5. (previously presented) The method according to claim 4, wherein element B is selected from the group consisting of gallium, indium, tin and their binary and ternary combinations with each other.

6. (previously presented) The method according to claim 1, wherein the liquid agent L is selected from the group consisting of (a) a substance having boiling point which is higher and a melting point which is lower than the melting point of element B, (b) mixtures of substances according to (a) and (c) solutions of substances according to (a) or their mixtures (b) in solvents which are neutral to both metal A and element B.

7. (previously presented) The method according to claim 6, wherein the liquid agent L is selected from the group consisting of CH-acids, aliphatic alcohols, polyhydric alcohols, higher carboxylic acids, condensed arenes polyethers, macrocyclic polyethers mixtures thereof, and solutions thereof.

8. (previously presented) The method according to claim 1, wherein ceasing treatment is accomplished by decreasing the temperature below the melting point of element B.

9. (previously presented) The method according to claim 1, wherein the thickness of the coating is 1 .mu.m or more greater.

10. (previously presented) The method according to claim 1, wherein the thickness of the coating is being controlled by adjustment of duration and/or temperature of the treatment with liquid agent L.

11. (previously presented) The method according to claim 1, wherein the treatment comprises immersing the mixture of metal A and element B in liquid agent L.

12. (previously presented) The method according to claim 1, further comprising forming the mixture of metal A and element B into a desired shape before treatment with liquid agent L.

13. (previously presented) The method according to claim 12, wherein the mixture of metal A and element B is formed in essentially spherical shape.

14. (previously presented) The method according to claim 12, wherein the mixture of metal A and element B is formed in cylindrical form or in form of a plate.

15. (previously presented) The method according to claim 13, wherein the spherically formed mixture is dropped into a bath of liquid agent L.

16. (canceled)

17. (canceled)

18. (previously presented) The method according to claim 1, wherein the thickness of the coating is 10 .mu.m or greater.

19. (previously presented) A method of manufacturing photoemissive devices and organic light emission diodes comprising using a chemically active material as a vapor source, wherein the chemically active material with a protective coating on its surface comprises a mixture of a chemically active metal and a fusible stable element and is produced by a method comprising the steps of:

providing at least one chemically active metal A;

providing at least one fusible stable element B;

mixing metal A and element B to form a mixture;

treating said mixture at its surface with a liquid agent L, wherein liquid agent L is capable of dissolving metal A but not capable of dissolving element B at a temperature which is higher than the melting point of element B thereby creating a coating consisting essentially of element B at the surface of said mixture;

ceasing treatment when a desired thickness of the coating is achieved;

removing the liquid agent;

cleaning the mixture; and

drying the mixture.

20. (previously presented) A method of manufacturing gas filters and vacuum sealed-off devices comprising using a chemically active material as chemisorbent including evaporable and non-evaporable getters, wherein the chemically active material with a protective coating on its surface comprises a mixture of a chemically active metal and a fusible stable element and is produced by a method comprising the steps of:

providing at least one chemically active metal A;

providing at least one fusible stable element B;

mixing metal A and element B to form a mixture;

treating said mixture at its surface with a liquid agent L, wherein liquid agent L is capable of dissolving metal A but not capable of dissolving element B at a temperature which is higher than the melting point of element B thereby creating a coating consisting essentially of element B at the surface of said mixture;

ceasing treatment when a desired thickness of the coating is achieved;

removing the liquid agent;

cleaning the mixture; and

drying the mixture.

21. (previously presented) A method of manufacturing special alloys, sublimation pumps or particle accelerators using a chemically active material as a source of active metals in chemical synthesis in the form of a catalyzer or in the form of a constituent of the produced product, wherein the chemically active material with a protective coating on its surface comprises a mixture of a chemically active metal and a fusible stable element and is produced by a method comprising the steps of:

providing at least one chemically active metal A;

providing at least one fusible stable element B;

mixing metal A and element B to form a mixture;

treating said mixture at its surface with a liquid agent L, wherein liquid agent L is capable of dissolving metal A but not capable of dissolving element B at a temperature which is higher than the melting point of element B thereby creating a coating consisting essentially of element B at the surface of said mixture;

ceasing treatment when a desired thickness of the coating is achieved;

removing the liquid agent;

cleaning the mixture; and

drying the mixture.

22. (new) A method of obtaining protective coatings on a surface of chemically active materials comprising a mixture of a chemically active metal and a fusible stable element comprising the steps of:

providing at least one chemically active metal A, wherein metal A is a group I or group II element;

providing at least one fusible stable element B, wherein metal B is a group III or group IV element;

mixing metal A and element B to form a mixture;

treating said mixture at its surface with a liquid agent L, wherein liquid agent L is a suitable solvent selected from the group consisting of diethylene glycol, ethylene glycol, glycerol, and 15% malonic ester in diphenyl ether;

ceasing treatment when a desired thickness of the coating is achieved;

removing the liquid agent;

cleaning the mixture; and

drying the mixture.